


Form PTO 1449 (Rev. 2-32)		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. IMMR-0043E (034701-068)		Serial No. 10/072,728	
 Information Disclosure Statement by Applicant (Use several sheets if necessary)				Applicant: Chester L. Schuler et al.			
				Filed: February 7, 2002		Group: 2629	
U.S. Patent Documents							
	Document No.	Date	Name	Class	Subclass	Filing Date	
/SKK/	2906179	09/29/1959	Bower				
	3263824	08/02/1966	Jones et al.				
	3304434	02/14/1967	Koster				
	3541541	11/17/1970	Englebart				
	3795150	03/05/1974	Eckhardt				
	3832895	09/03/1974	Strandh				
	3863098	01/28/1975	Mehr				
	4148014	04/03/1979	Burson				
	4216467	08/05/1980	Colston				
	4382166	05/03/1983	Kim				
	4409479	10/11/1983	Sprague et al.				
	4423428	12/27/1983	Zawabara et al.				
	4459440	07/10/1984	Wiczor				
	4473725	09/25/1984	Kim				
	4489304	12/18/1984	Hayes				
	4546347	10/08/1985	Kirsch				
	4575297	03/11/1986	Richter				
	4654648	03/31/1987	Herrington et al.				
	4689449	08/25/1987	Rosen				
	4712101	12/08/1987	Culver				
	4724715	02/16/1988	Culver				
	4758692	07/19/1988	Roeser et al.				
	4771344	09/13/1988	Fallcaro et al.				
	4782327	11/01/1988	Kley et al.				
	4787051	11/22/1988	Olson				
	4794384	12/27/1988	Jackson				
	4799055	01/17/1989	Nestler et al.				
	4825157	04/25/1989	Mikan				
	4839838	06/13/1989	LeBiche et al.				
	4857881	08/15/1989	Hayes				
	4874998	10/17/1989	Hollis, Jr.				
	4878374	11/07/1989	Nelson				
	4879556	11/07/1989	Dumiel				
↓	4906843	03/06/1990	Jones et al.				
/SKK/	4935728	06/19/1990	Kley				
Examiner /Srilakshmi Kumar/				Date Considered 05/11/2007			
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Init.	Document No.	Date	Name	Class	Subclass	Filing Date	
/SKK/	4954817	09/04/1990	Levine				
	4961138	10/02/1990	Gorniak				
	4962448	10/09/1990	DeMaio et al.				
	4983786	01/08/1991	David et al.				
	4994669	02/19/1991	Stern				
	5007085	04/09/1991	Greanias et al.				
	5027648	07/02/1991	Filleau				
	5047942	09/10/1991	Middleton et al.				
	5047952	09/10/1991	Kramer et al.				
	5086296	02/04/1992	Clark				
	5088046	02/11/1992	McMurtry et al.				
	5107719	04/28/1992	Kota				
	5128671	07/07/1992	Thomas, Jr.				
	5132672	07/21/1992	Clark				
	5138154	08/11/1992	Hotelling				
	5181181	01/19/1993	Glynn				
	5193963	03/16/1993	McAffee et al.				
	5195179	03/16/1993	Takunaga				
	5227594	07/13/1993	Russo				
	5228356	07/20/1993	Chuang				
	5253832	10/19/1993	Bolas et al.				
	5254919	10/19/1993	Bridges et al.				
	5261291	11/16/1993	Schoch et al.				
	5262777	11/16/1993	Low et al.				
	5264836	11/23/1993	Rubin				
	5270689	12/14/1993	Herman				
	5277281	01/11/1994	Carlson et al.				
	5280265	01/18/1994	Kramer et al.				
	5293158	03/08/1994	Soma				
	5296846	03/22/1994	Ledley				
✓	5296871	03/22/1994	Paley				
	5298890	03/29/1994	Kanamaru et al.				
/SKK/	5298918	03/29/1994	Yen-Chen et al.				
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Init.		Document No.	Date	Name	Class	Subclass	Filing Date
/SKK/		5313230	05/17/1994	Venolia et al.			
		5317336	05/31/1994	Hall			
		5334893	08/02/1994	Oudet et al.			
		5374942	12/20/1994	Gilligan et al.			
		5379663	01/10/1995	Hara			
		5389849	02/14/1995	Asano et al.			
		5398044	03/14/1995	Hill			
		5436640	07/25/1995	Reeves			
		5438529	08/01/1995	Rosenberg et al.			
		5451924	09/19/1995	Massimino et al.			
		5456341	10/10/1995	Garnjost et al.			
		5457479	10/10/1995	Cheng			
		5459382	10/17/1995	Jacobus et al.			
		5461711	10/24/1995	Wang et al.			
		5473235	12/05/1995	Lance et al.			
		5473344	12/05/1995	Bacon et al.			
		5524195	06/04/1996	Clanton, III et al.			
		5526480	06/11/1996	Gibson			
		5530455	06/25/1996	Gillick et al.			
		5541379	07/30/1996	Kim			
		5547383	08/20/1996	Yamaguchi			
		5550562	08/27/1996	Aoki et al.			
		5551701	09/03/1996	Bouton et al.			
		5555894	09/17/1996	Doyama et al.			
		5565887	10/15/1996	McCambridge et al.			
		5565888	10/15/1996	Selker			
		5570111	10/29/1996	Barrett et al.			
		5571997	11/05/1996	Gray et al.			
		5576704	11/19/1996	Baker et al.			
		5586257	12/17/1996	Perlman			
		5591082	01/07/1997	Jensen et al.			
/SKK/		5592401	01/07/1997	Kramer			
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/SKK/		5596347	01/21/1997	Robertson et al.			
		5627348	05/06/1997	Berkson et al.			
		5628686	05/13/1997	Svancarek et al.			
		5652603	07/29/1997	Abrams			
		5656901	08/12/1997	Kurita			
		5665946	09/09/1997	Nishijima et al.			
		5676157	10/14/1997	Kramer			
		5687080	11/11/1997	Hoyt et al.			
		5689285	11/18/1997	Asher			
		5694153	12/02/1997	Aoyagi et al.			
		5696532	12/09/1997	Caprara			
		5696535	12/09/1997	Rutledge et al.			
		5710574	01/20/1998	Jaaskelainen, Jr.			
		5712725	01/27/1998	Faltermeier et al.			
		5724068	03/03/1998	Sanchez et al.			
		5724106	03/03/1998	Autry et al.			
		5724264	03/03/1998	Rosenberg et al.			
		5731804	03/24/1998	Rosenberg			
		5736978	04/07/1998	Hasser et al.			
		5745057	04/28/1998	Sasaki et al.			
		5745715	04/28/1998	Pickover et al.			
		5749533	05/12/1998	Daniels			
		5749577	05/12/1998	Couch et al.			
		5757358	05/26/1998	Osga			
		5760764	06/02/1998	Martinelli			
		5771037	06/23/1998	Jackson			
		5784052	07/21/1998	Keyson			
		5805165	09/08/1998	Thorne, III et al.			
		5805601	09/08/1998	Takeda et al.			
		5808601	09/15/1998	Leah et al.			
		5816823	10/06/1998	Naimark et al.			
		5818423	10/06/1998	Pulgieste et al.			
/SKK/		5821920	10/13/1998	Rosenberg et al.			
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Init.	Document No.	Date	Name	Class	Subclass	Filing Date	
/SKK/	5828363	10/27/1998	Yaniger et al.				
	5831596	11/03/1998	Marshall et al.				
	5835693	11/10/1998	Lynch et al.				
	5841423	11/24/1998	Carroll, Jr. et al.				
	5841428	11/24/1998	Jaeger et al.				
	5844392	12/01/1998	Peurach et al.				
	5868573	02/09/1999	Kerby et al.				
	5877748	03/02/1999	Redlich				
	5896125	04/20/1999	Niedzweicki				
	5907487	05/25/1999	Rosenberg et al.				
	5914716	06/22/1999	Rubin et al.				
	5929607	07/27/1999	Rosenberg et al.				
	5929846	07/27/1999	Rosenberg et al.				
	5930741	07/27/1999	Kramer				
	5956484	09/21/1999	Rosenberg et al.				
	5959613	09/28/1999	Rosenberg et al.				
	5977977	11/02/1999	Kajiya et al.				
	5984785	11/16/1999	Takeda et al.				
	5990860	11/23/1999	Takeuchi				
	5990875	11/23/1999	Bi et al.				
	5999168	12/07/1999	Rosenberg et al.				
	5999185	12/07/1999	Kato et al.				
	6008800	12/28/1999	Pryor				
	6028593	02/22/2000	Rosenberg et al.				
	6046727	04/04/2000	Rosenberg et al.				
	6057828	02/02/2000	Rosenberg et al.				
	6059506	05/09/2000	Kramer				
	6061004	05/09/2000	Rosenberg				
	6078308	06/20/2000	Rosenberg et al.				
✓	6100874	08/08/2000	Schena et al.				
	6102803	08/15/2000	Takeda et al.				
/SKK/	6131097	10/10/2000	Peurach et al.				
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Init.		Document No.	Date	Name	Class	Subclass	Filing Date	
/SKK/		2001/0002126	05/31/2001	Rosenberg et al.				
/SKK/		2001/0026266	10/04/2001	Schena et al.				
/SKK/		2002/0072814	06/13/2002	Schuler et al.				
/SKK/		2002/0109668	08/15/2002	Rosenberg et al.				
Foreign Documents								
Translation								
Init.		Document No.	Date	Country	Class	Subclass	Yes	No
/SKK/		0 640 902	03/01/1995	EP				
/SKK/		3-97485	04/23/1991	JP			(abstract)	
/SKK/		4-131924	05/06/1992	JP			(abstract)	
/SKK/		1335994	09/07/1987	SU				
/SKK/		1732371	05/07/1992	SU				
/SKK/		00-03319	01/20/2000	WO				
/SKK/		95-20788	08/03/1995	WO				
/SKK/		95-21436	08/10/1995	WO				
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Other Documents (Including Author, Title, Date, Pertinent Pages, etc.)				
/SKK/		Disclosed Anonymously, "28373, Joystick with Tactile Feedback," Research Disclosure, Vol. 283, pp. 742, Nov. 1987.		
		Ansley, D., "Thimble gets in touch with reality", New Scientist, Issue 1908, pp. 19, January 15, 1994.		
		Armstrong, B., "The GLOBAL Navigator: a 3d Mouse, 1995.		
		Unknown Authors, "Hard Drivin' Schematic Package," Atari Games Corporation, Milpitas, CA, 1989.		
		Ballard, J.W. et al., "Human-engineered Electromechanical Tactual Sensory Control System", Electrical Manufacturing, pp. 118-121, October 1954.		
		Bergamasco, M., "Haptic interfaces: the study of force and tactile feedback systems," Proceedings of the 4th IEEE International Workshop on Robot and Human Communication, Tokyo, Japan, pp. 15-20, 1995.		
		Berkelman, P. et al., "Interacting with Virtual Environments using a Magnetic Levitation Haptic Interface," International Conference on Intelligent Robots and Systems, IROS '95, Pittsburgh, pp. 1-6, August, 1995.		
		Burdea, G., et al., "A portable dextrous master with force feedback," Presence: Vol.1, No. 1, pp. 18-28, 1992.		
		Chen, E. et al, "Exos slip display research and development," Proceedings of the International Mechanical Engineering Congress and Exposition, ASME DSC, Vol. 55-1, pp. 265-270, 1994.		
		du Lake, Sir Launcelot, "Cyberman from Logitech" http://www.ibiblio.org/GameBytes/Issue21/greviews/cyberman.html , 1994.		
		Durlach, N., et al, (Editors), "Virtual reality: scientific and technological challenges," National Academy Press, Washington, D. C., 1995.		
		Hannaford, B., et al, "Technical Support Package on Force-Feedback Cursor Control" for November 1989 NASA Tech Brief Vol. 13, No. 11, Item #21 from JPL invention report NPO-17520/7034, November 1989.		
		Hayward, V. et al. "Design and Multi-Objective Optimization of a Linkage for a Haptic Interface," Advances in Robot Kinematics and Computationed Geometry, pp. 359-368, 1994.		
		Hogan, N., et al, "Haptic illusions: Experiments on human manipulation and perception of "virtual objects", Vol. 55 Cold Spring Harbor Symposia on Quantitative Biology, pp. 925-931, 1990.		
		Hon, D., "Ixon's Realistic Medical Simulations" Virtual Reality World, Vol. 2, No. 4, pp. 58-62, July/August 1994.		
		"Cursor Waldo," Designer's Corner-Useful Technology for Your Idea File, Design News, pp. 63, March 7, 1994.		
		Kelley, A., et al., "On the Development of a Force-Feedback Mouse and Its Integration into a Graphical User Interface," Symposium on Haptic Interfaces for Virtual Environment and teleoperator Systems, 1994 International Mechanical Engineering Congress and Exhibition, Chicago, IL, November 1994.		
		Kim, W., et al., "Graphics Displays for Operator Aid in Telemanipulation," Proceedings of the 1991 IEEE International Conference on Systems, Man, and Cybernetics, pp. 1059-1067, 1991.		
		Kim, W., et al, "A teleoperation training simulator with visual and kinesthetic force virtual reality," SPIE Vol. 1666 Human Vision, Visual Processing, Digital Display III, pp. 560-569, 1992.		
		Lemkin, M., et al., "Velocity Estimation From Widely Spaced Encoder Pulses," Proceedings of the American Control Conference, Seattle, WA, pp. 998-1002, June 1995.		
/SKK/		Logitech Developer Support, "Logitech Cyberman SWIFT Supplement, Revision: 1.0," Logitech Inc., Fremont, CA, pp. iii-29, 4/5/94.		
Examiner		/Srilakshmi Kumar/		Date Considered 05/11/2007
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Other Documents (Including Author, Title, Date, Pertinent Pages, etc.)				
/SKK/		MacLean, K., "The Haptic Camera: A Technique for Characterizing and Playing Back Haptic Environments," Proceedings of the 5th Annual Symposium on Haptic Interfaces for Virtual Environments and Teleoperator Systems, ASME/IMECE, Atlanta, GA, DSC-Vol. 58, 1996.		
		Massie, T., "Design of a Three Degree of Freedom Force-Reflecting Haptic Interface," Bachelor of Science in Electrical and Engineering Thesis, Massachusetts Institute of Technology, Cambridge, MA, , pp. 1-38, May, 1993.		
		Merril, J. et al., "Virtual Heart Surgery: Trade Show and Medical Education", Virtual Reality World, Vol. 2, No. 4, pp. 55-57, July/August 1994.		
		Merril, J. et al., "Virtual Reality for Trade Shows and Individual Physician Training", Virtual Reality Systems, Vol. 1, No. 3, pp. 40-44, 1994.		
		Noll, A., "Man-Machine Tactile Communication," Dissertation for Polytechnic Institute of Brooklyn, Brooklyn, NY, 1971.		
		От; J., "Exotic CAD," Volume 12 Computer Graphics World No. 7, pp. 88-92, July, 1989.		
		Ramstein, C., et al., "The Pantograph: A Large Workspace Haptic Device for a Multimodal Human-Computer Interaction", CHI'94, Conference on Human Factors in Computing Systems ACM/SIGCHI, Boston, MA, April 24-28, 1994.		
		Rosenberg, "Medical Applications of Virtual Reality", Virtual Reality Systems, Vol. 1, No. 3, , pp. 48-50, Spring 1994.		
		Rosenberg, L., et al, "Commercially Viable Force Feedback Controller for Individuals with Neuromotor Disabilities," Crew Systems Directorate, Biodynamics and Biocommunications Division, Wright Patterson AFB, OH, pp. 1-33, May 1996.		
		Rosenberg, L., et al., "Using Force Feedback to Enhance Human Performance in Graphical User Interfaces", CHI '96 Companion, April 13-18, pp. 291-292, 1996.		
		Salisbury, J., et al., "Virtual Environment Technology for Training (VETT), III-A-1-C. Haptic Interfaces," BBN Report No. 7661, prepared by The Virtual Environment and Teleoperator Research Consortium (VETREC) affiliated with MIT, pp. III-A-27 - III-A-40, March 1992.		
		Salisbury, K., et al "Haptic Rendering: Programming Touch Interaction with Virtual Objects,"95 Symposium on Interactive 3D Graphics, Monterey, CA, pp. 123-130, 1995.		
		Shahinpoor, M., "A New Effect in Ionic Polymeric Gels : The Ionic Flexoelectric Effect," Proc. SPIE 1995 North American Conference on Smart Structures and Materials, San Diego, CA, vol. 2441, Paper No. 05, pp. 42-53, February 28-March 2, 1995.		
		Smith, G., "Call It Palpable Progress", Business Week, , pp. 93, 96, Oct. 9, 1995.		
		Tan, H. et al., "Manual Resolution of Compliance When Work and Force Cues are Minimized," Advances in Robotics, Mechatronics, and Haptic Interfaces, DSC-vol. 49, ASME 1993, pp. 99-104, 1993.		
		Trant, J., Jr., "Preliminary investigation of a stick shaker as a lift-margin indicator," National Advisory Committee for Aeronautics, Technical Note 3355 (naca-tm-3355), Langley Aeronautical Laboratory, Langley Field, VA, February 1955.		
/SKK/		Voyles, R., et al., "Design of a Modular Tactile Sensor and Actuator Based on an Electrorheological Gel," Proceedings of the 1996 IEEE International Conference on Robotics and Automation, Minneapolis, MN, April 1996.		
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